

Abstract clones and operads

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Abstract

We establish a connection between abstract clones and operads, which implies that both clones and operads are particular instances of a more general notion. The latter is called W -operad (due to a close resemblance with operads) and can be regarded as a functor on a certain subcategory W , of the category of finite ordinals, with some rather natural properties. When W is a category whose morphisms are the various bijections, the variety of W -operads is rationally equivalent to the variety of operads in the traditional sense. Our main result claims that if W coincides with the category of all finite ordinals then the variety of W -operads is rationally equivalent to the variety of abstract clones.

<http://dx.doi.org/10.1023/A:1016340806503>

Keywords

Abstract clone, Operad, Rational equivalence, Variety